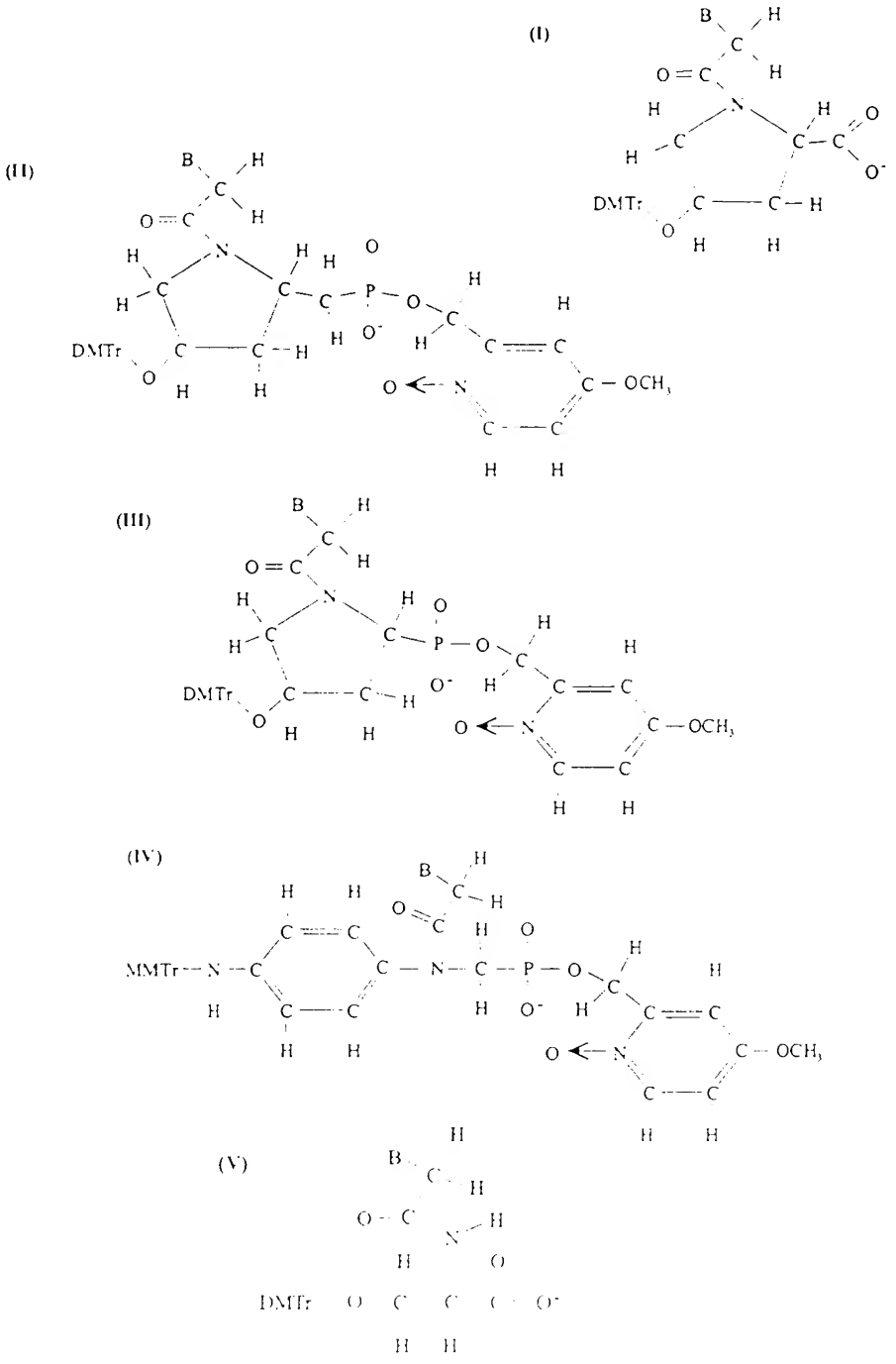
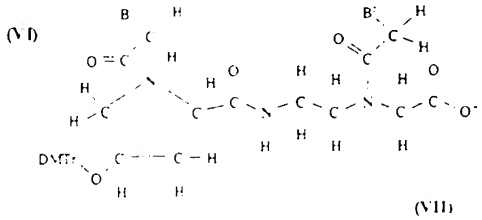
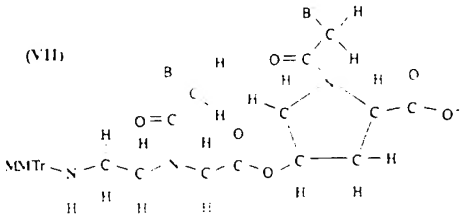
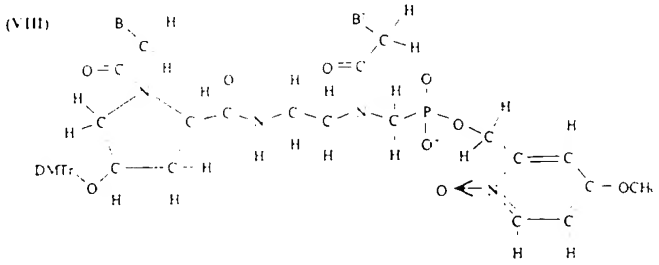
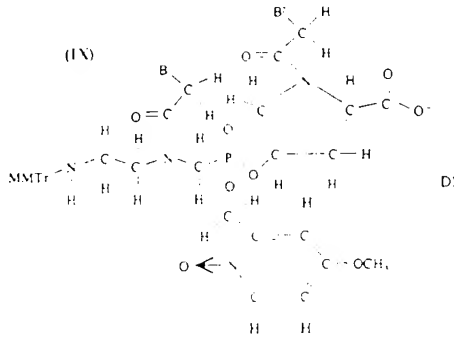


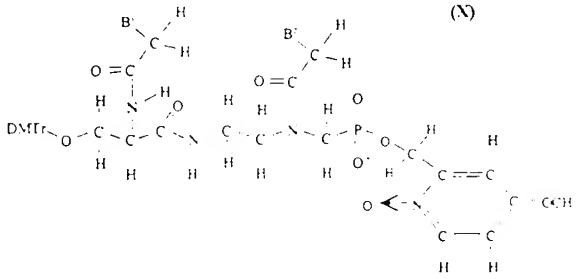
FIG. 1











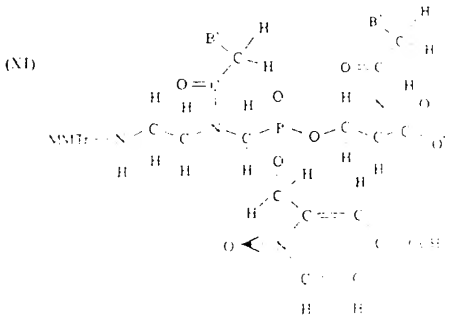
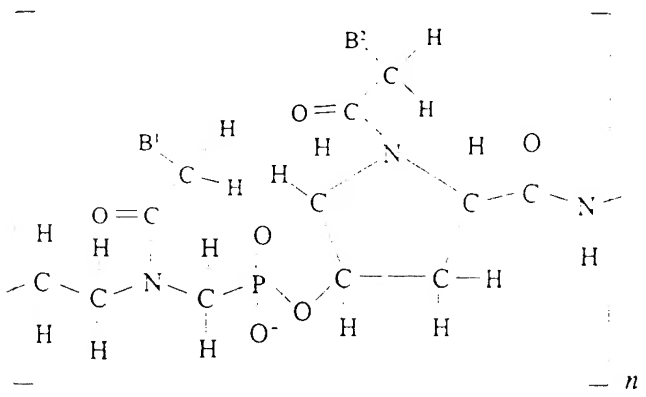


FIG. 2

(XII)



(XIII)

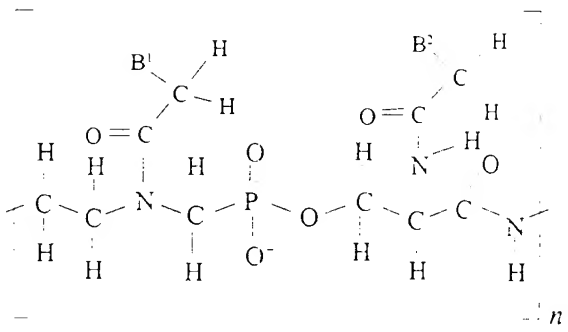


FIG. 3a

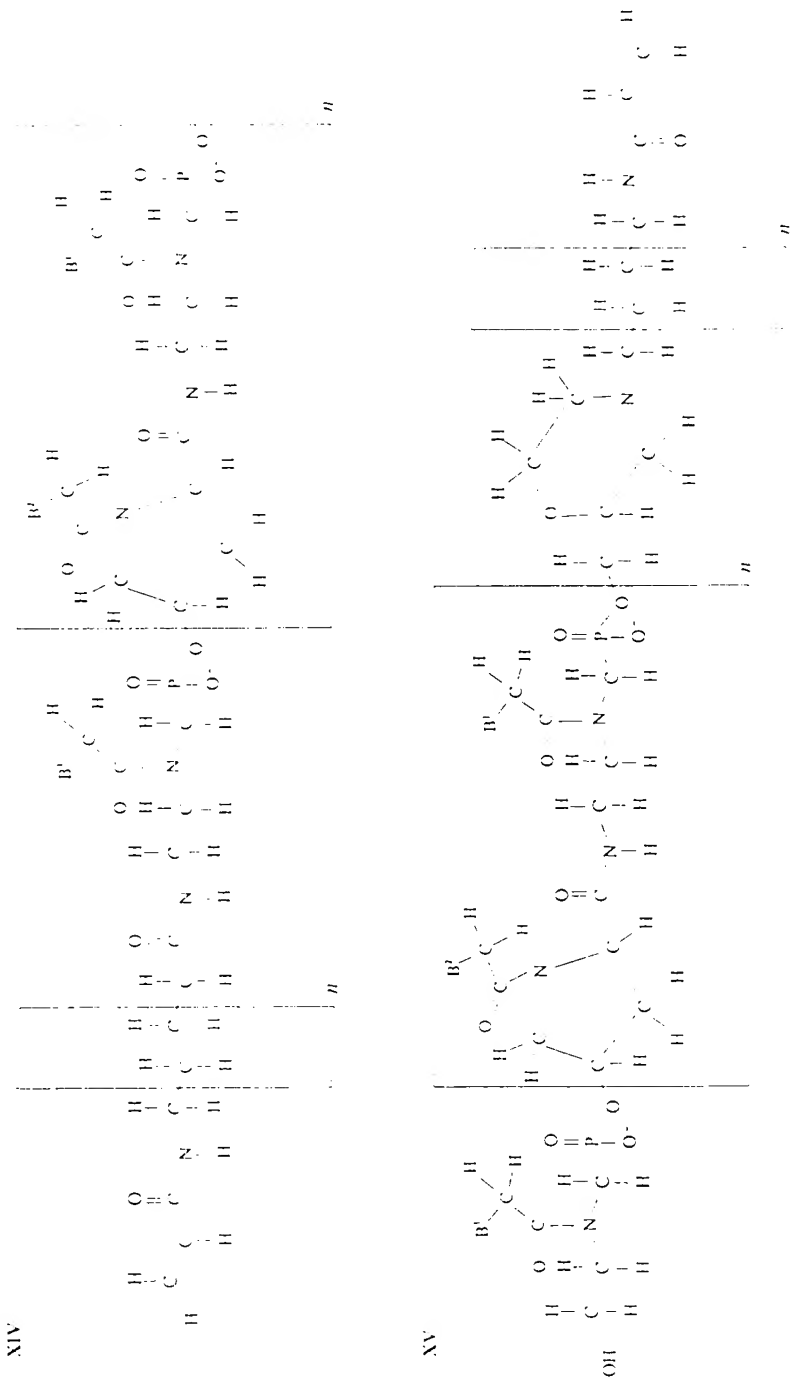


FIG. 3b

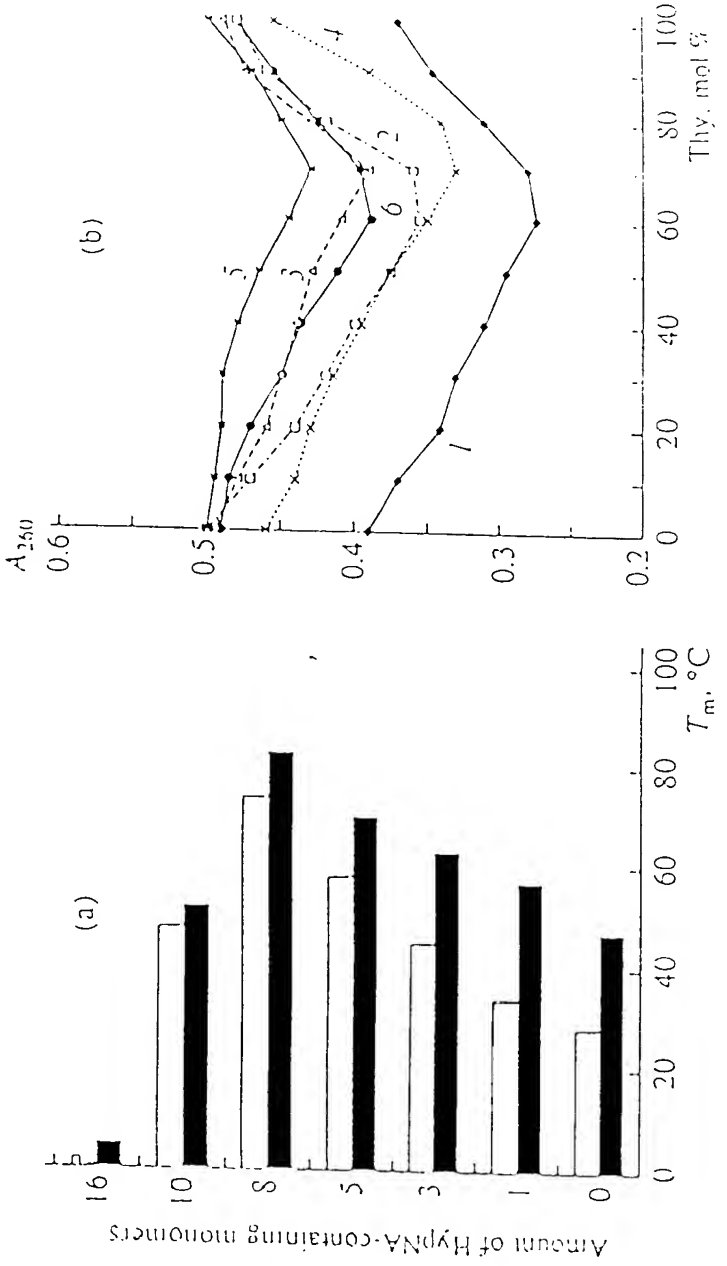
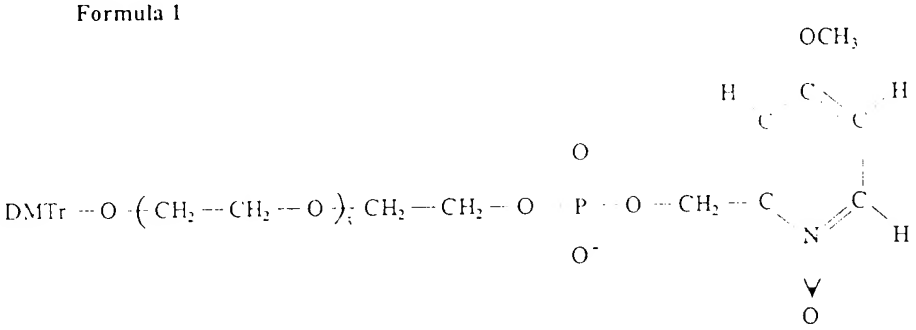

(b)
A_{260}
0.6
0.5
0.4
0.3
0.2
0
20
40
60
80
100
Thy, mol %
1
2
3
4
5
6
(a)
T_m, °C
0
20
40
60
80
100
0
1
3
5
10
16
Amount of HypNA-containing monomers

FIG. 4

Formula 1



Formula 2

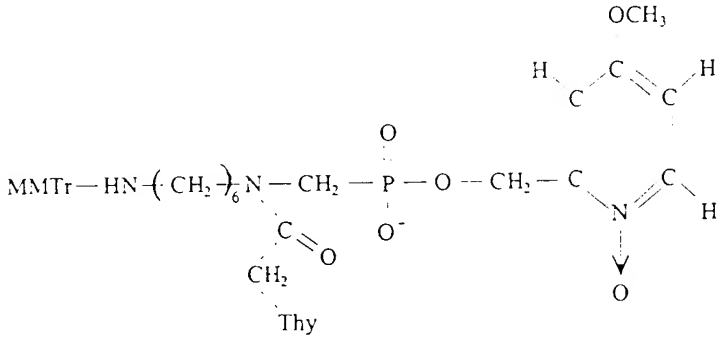
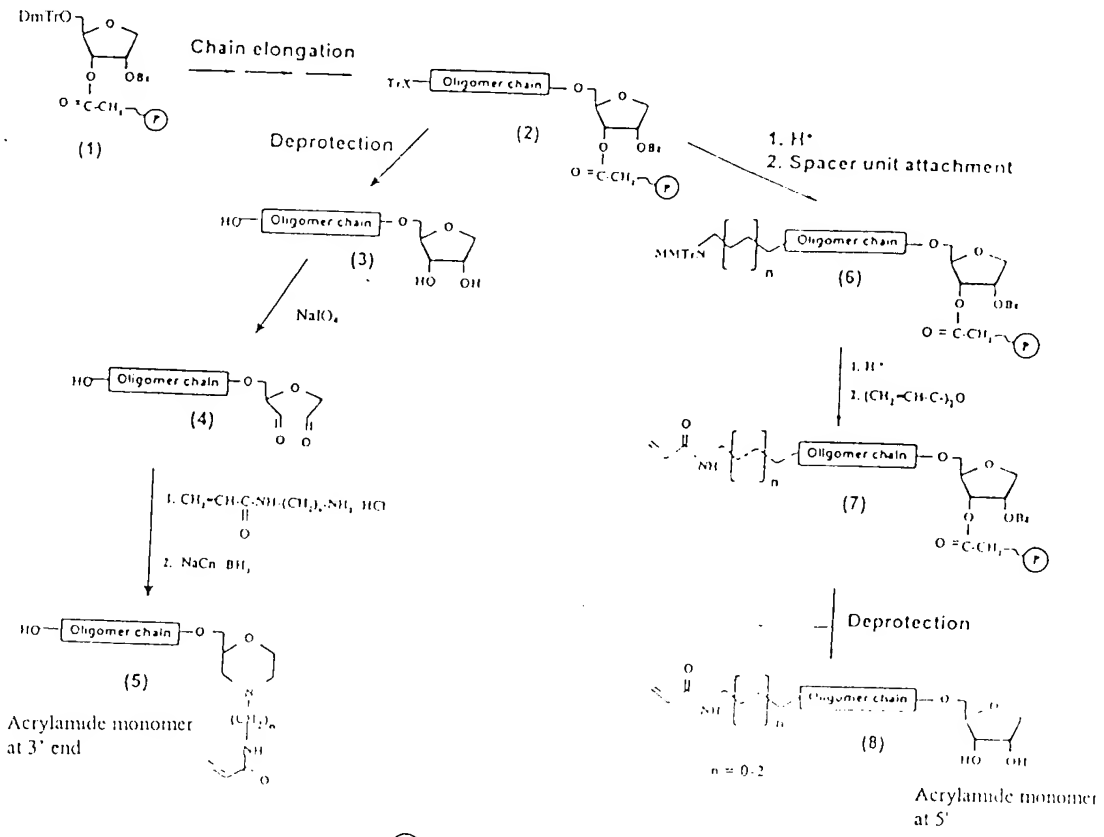


FIG. 5

FIG. 6


DmTrO
Chain elongation
TrX
Oligomer chain
(1)
(2)
Deprotection
1. H+
2. Spacer unit attachment
HO
(3)
NaIO4
(4)
1. CH2=CH-C-NH-(CH2)2-NH2 HCl
2. NaCn BH3
(5)
Acrylamide monomer at 3' end
MMTrN
(6)
1. H+
2. (CH2=CH-C-)2O
(7)
Deprotection
(8)
n = 0-2
Acrylamide monomer at 5'
P = CPG support
TrX = DMTrO, or MMTrNH

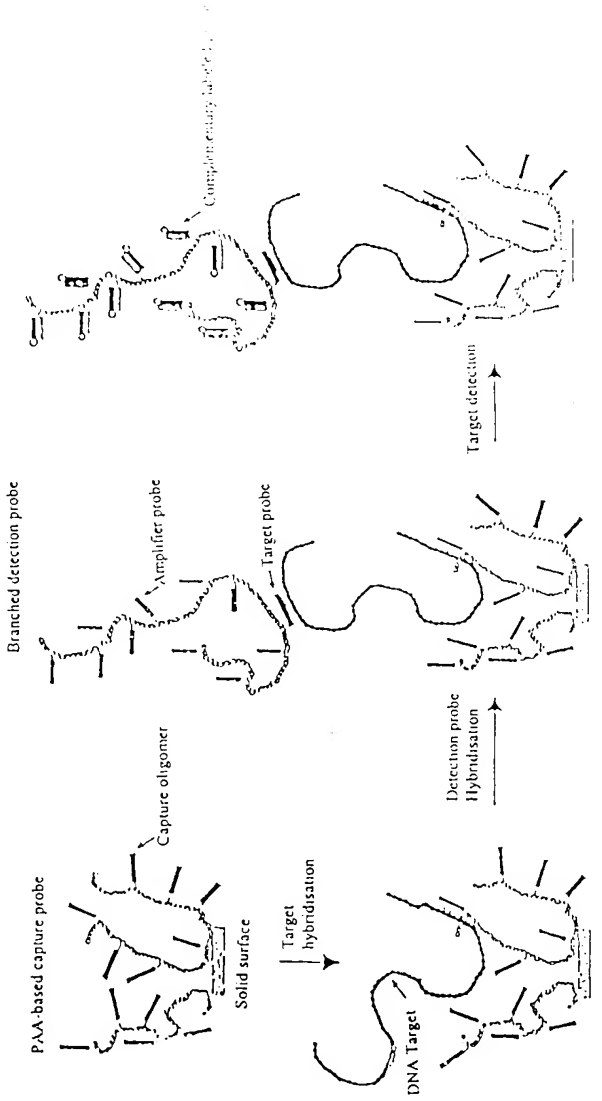

PAA-based capture probe
Capture oligomer
Solid surface
Target hybridisation
DNA Target
Detection probe Hybridisation
Branched detection probe
Amplifier probe
Target probe
Target detection

FIG. 7

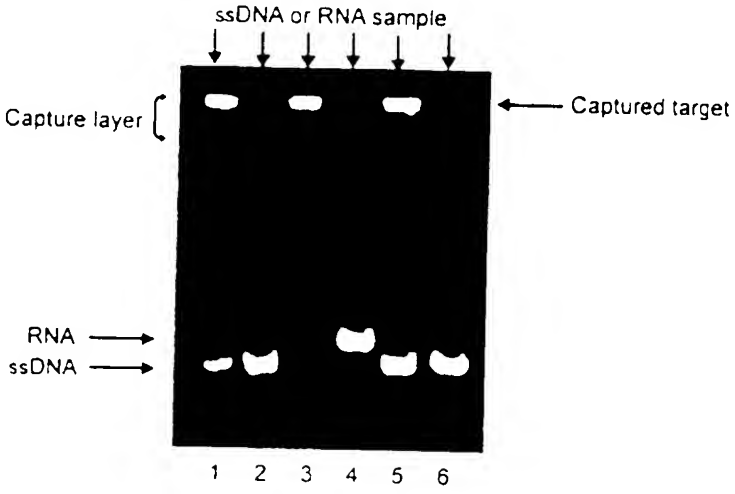

ssDNA or RNA sample
Capture layer
Captured target
RNA
ssDNA
1 2 3 4 5 6

FIG. 5